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**DIRECTORATE OF
INTELLIGENCE**

**General Purpose Weapons
Industrial Facilities**

Basic Imagery Interpretation Report

Shen-yang Airframe Plant 112

Shen-yang, China



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SHEN-YANG AIRFRAME PLANT 112
SHEN-YANG, CHINA

SUMMARY

Since World War II Shen-yang Airframe Plant 112 has developed from a small aircraft repair and assembly plant to a major military aircraft production plant with an associated aerodynamic research and development area.

The facilities presently include over 2.8 million square feet of floorspace and consist of a main production area, a subsidiary production area, an aircraft repair and maintenance area, the research and development area, and a plant flyaway field. Although the expansion of facilities at this installation has been continuous, the most significant increase occurred in the 1951-1956 period when almost 60 percent of the present building area was constructed. Recent construction has been focused on the expansion of the research and development facilities and on the renovation of the flyaway field.

The MIG-19 (Farmer) aircraft has been observed in series production at this plant since late 1964. Since May 1967, SA-2 (Guideline) missile canisters have also been identified within this installation.

NOTE: This report was prepared in direct support of the Central Intelligence Agency. By agreement with DIAAP-9 it will serve as an interim Basic Imagery Interpretation Report.

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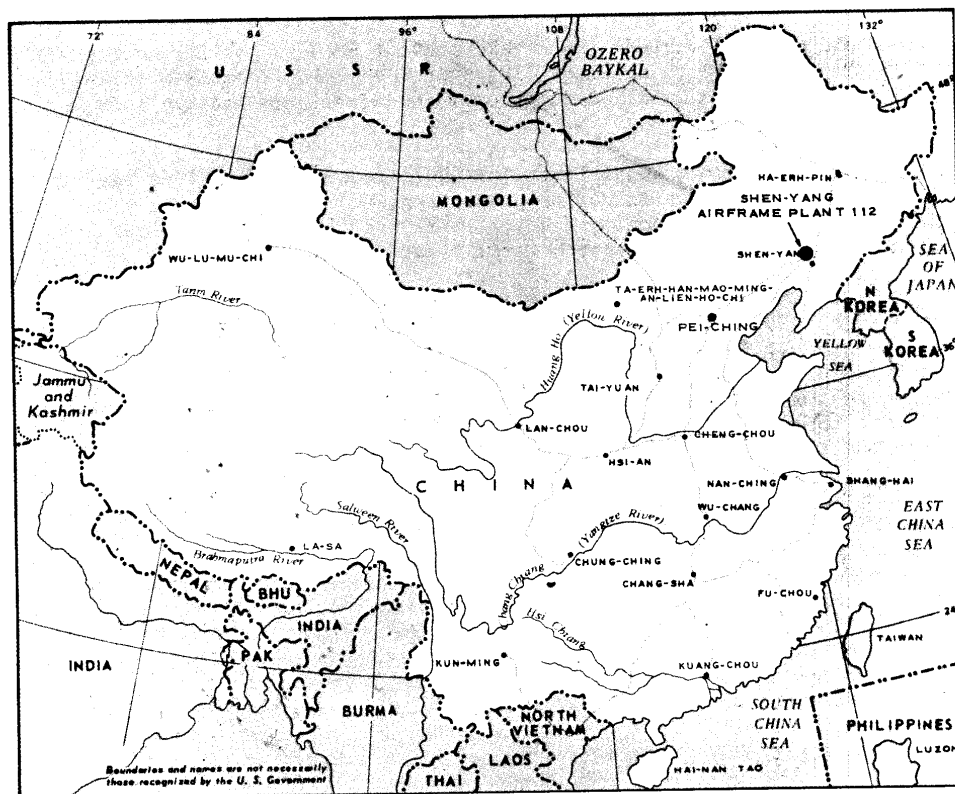


FIGURE 1. LOCATION MAP

TABLE OF CONTENTS

	<u>PAGE</u>
Summary	1
Introduction	3
Chronological Development and Description of Facilities	3
References	8

LIST OF ILLUSTRATIONS

Figure 1. Location Map	2
Figure 2. 1944 Photograph of Shen-yang Airframe Plant 112	4
Figure 3. Functional Areas, Shen-yang Airframe Plant 112	4
Figure 4. Research and Development Area (Photograph)	5
Figure 5. Research and Development Area (Perspective Drawing)	6
Figure 6. Construction Chronology and Description of Facilities	7

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INTRODUCTION

This report describes the development of Shen-yang Airframe Plant 112 (hereafter referred to as Plant 112) over the period from 1944 through 1967 and provides a detailed functional and dimensional analysis of its facilities.

This facility is significant for three reasons: (a) it is the largest Chinese airframe plant in active production; (b) it is the only plant producing military aircraft; and (c) it is the only aircraft plant in China with aerodynamic research facilities.

Plant 112 [] is located in Liaoning Province, China at 41-51N 123-25E, approximately 5 nautical miles (nm) north of the center of the city of Shen-yang (Mukden) and 1.5 nm west of the Manchurian Railway (Figure 1). The plant is adjacent to Shen-yang/Pei-ling Airfield, which is the production facility's test and flyaway field. The installation is both road and rail served and has one main taxiway connecting it with the flyaway field.

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The Shen-yang/Pei-ling Airfield presently has an [] NNE/SSW serviceable concrete runway with a graded-earth overrun of approximately 1400 feet at the NNE end, a parallel taxiway, two end-connecting links (one of which is abandoned), an alert apron and three crossover links. Other airfield facilities consist of four parking aprons (one deteriorated) and a compass rose. Since May 1967 work has been underway on the resurfacing of several of the plant's parking aprons, and in December 1967 renovation of the runway overrun and the realignment of an intersecting rail spur were begun.

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The first photographic coverage of Plant 112 was obtained in June 1944, and subsequently on only three other occasions between then and August 1962 (May 1951, January 1956 and August 1961). Since August 1962, photographic coverage has been obtained fairly regularly.

All measurements have been made by the NPIC Photogrammetry Division with the exception of those marked with an asterisk (*), which were made by the CIA/IAS project analyst. The NPIC/PHD measurements are considered to be accurate within ± 5 feet or 5 percent, whichever is greater. The CIA/IAS measurements were accomplished using scaling factors derived from NPIC/PHD measurements in the area. They were derived using good-quality, near vertical photography.

CHRONOLOGICAL DEVELOPMENT AND DESCRIPTION OF FACILITIES

When first photographed in June 1944, Plant 112 was only a small road and rail served repair facility and assembly plant with four production hangars, four repair hangars, and a small number of shops. When again observed in May 1951 there had been no significant changes to the plant facilities, although the runway had been extended from approximately 3900 feet to 6600 feet, and a new parallel taxiway and one end-connecting and one crossover link had been constructed.

By January 1956 the size and production capacity of Plant 112 had increased greatly. An additional ten major production buildings had been constructed. The largest of these, the final assembly/subassembly building (Item 18),** contained as much floorspace as the entire plant did when first observed. Also completed by this date were the following buildings: a machine shop/subassembly building (Item 27), two foundries (Items 13 and 24), a forge (Item 21), a probable heat treatment shop (Item 22), three machine shops (Items 19, 20 and 25), a steam plant (Item 15), a POL storage area (Item 17), a test revetment (Item 11), and a number of small workshops and support buildings.

** All item numbers refer to Figure 6 and its accompanying table.

NOTE: The functional areas of Plant 112 are annotated on Figure 3, and the individual facilities are shown in Figures 3 and 6.

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The construction of the research and development area began between January 1966 and August 1961. When it was observed in August 1961 the large continuous flow wind tunnel, a probable compressor building, and a blowdown-type wind tunnel were under construction (Figure 6, Items 4, 5 and 6). By August 1962 the blowdown tunnel and the probable compressor building were completed, and between August 1962 and May 1963 the continuous flow tunnel was completed. Between May 1963 and July 1964 the second blowdown tunnel (Figure 6, Item 3) was constructed, and between July 1964 and September 1964 work had begun on moving the spherical pressure tanks (Figure 6, Item 1) 200 feet east of their original site, plus the installation of the cylindrical tanks (Figure 6, Item 2). The only change between September 1964 and December 1967 was the removal of the external vents on the smaller of the two blowdown wind tunnels, thus indicating that this tunnel has been deactivated, and the construction of a laboratory engineering workshop complex (Item 7) consisting of six buildings (three complete).

At the present time this area contains the following facilities: one continuous flow wind tunnel, two blowdown-type wind tunnels (one of which has been deactivated), a probable compressor building, 27 pressure tanks providing a total storage volume of 4,000 cu ft, and a laboratory/engineering workshop complex. See Figures 4 and 5.

In addition to the construction observed in the research and development area the following activity had taken place by August 1962: construction of a small parking apron and a large workshop (Item 16), plus the extension of the runway to its current length of 10,000 feet. The workshop (Item 16) was originally intended to be used as a foundry, but the furnace has since been removed and it is presently being used as a carpentry shop/workshop. The extension of the parallel taxiway was still underway at this time.

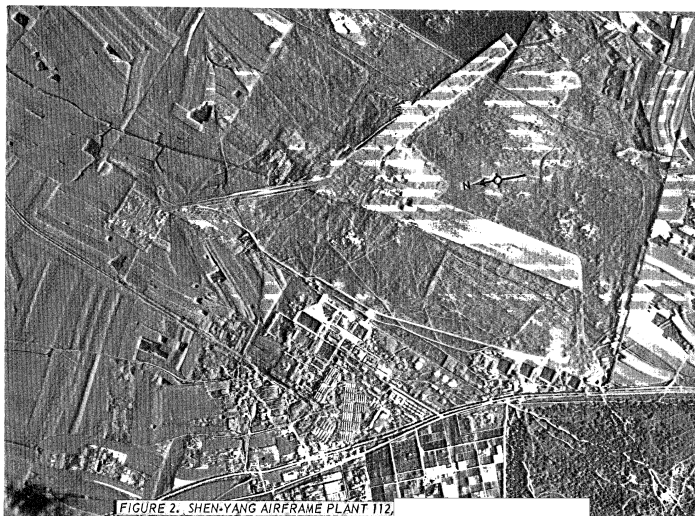


FIGURE 2. SHEN-YANG AIRFRAME PLANT 112.

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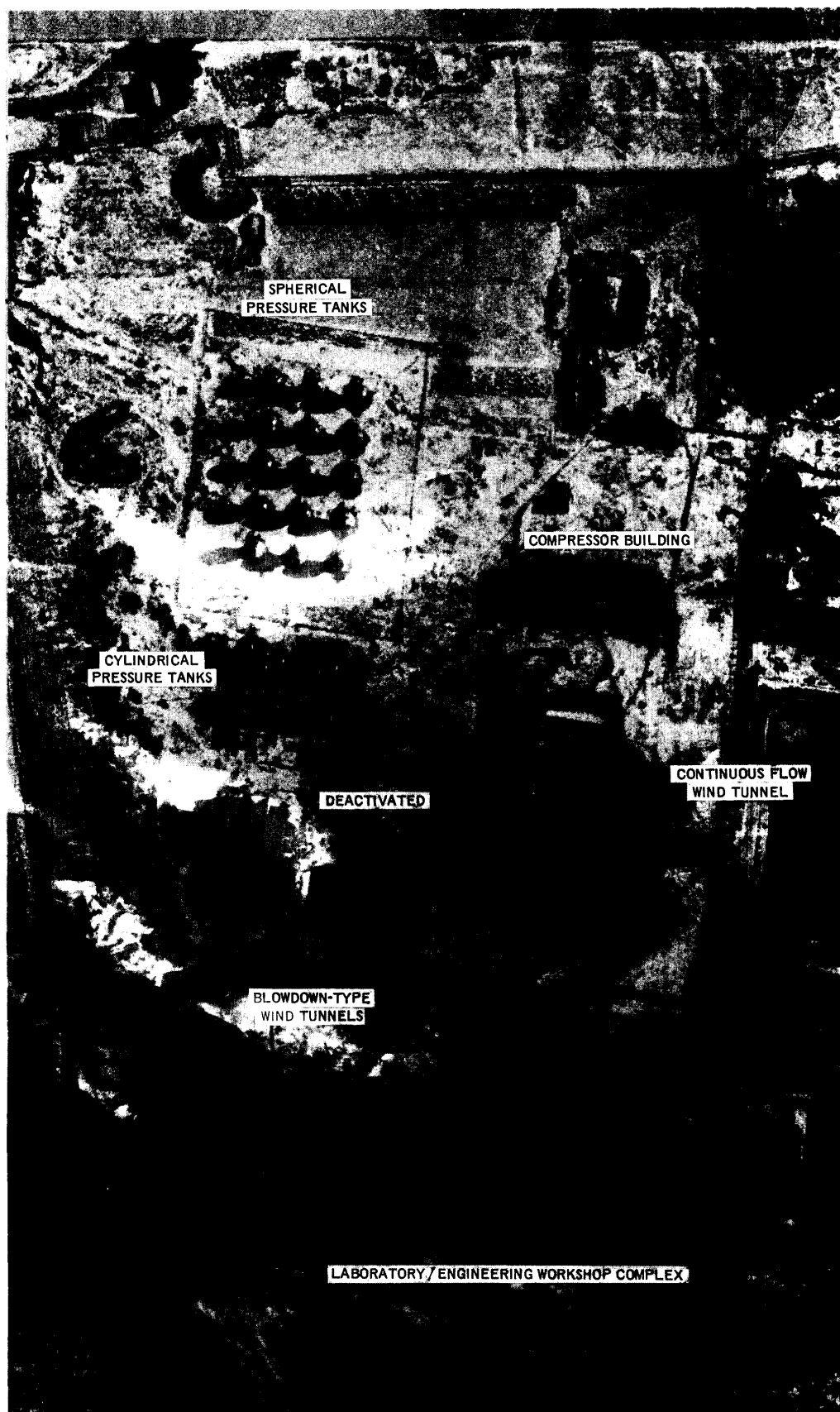


FIGURE 4. RESEARCH AND DEVELOPMENT AREA SHEN-YANG AIRFRAME PLANT 112,

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During the period between August 1962 and December 1967 the overall construction rate diminished and was limited to the expansion of the research and development area, the subsidiary production area, and the airfield facilities. In this time frame the machine shop/assembly building (Item 9), which is the main assembly building of the subsidiary production area, a crossover link a and an alert apron had been completed.

In May 1967 a number of SA-2 (Guideline) missile canisters were observed in the subsidiary production area and have been present on all subsequent good-quality, large-scale photography. There is, however, insufficient photographic evidence at this time to substantiate missile production at this facility.

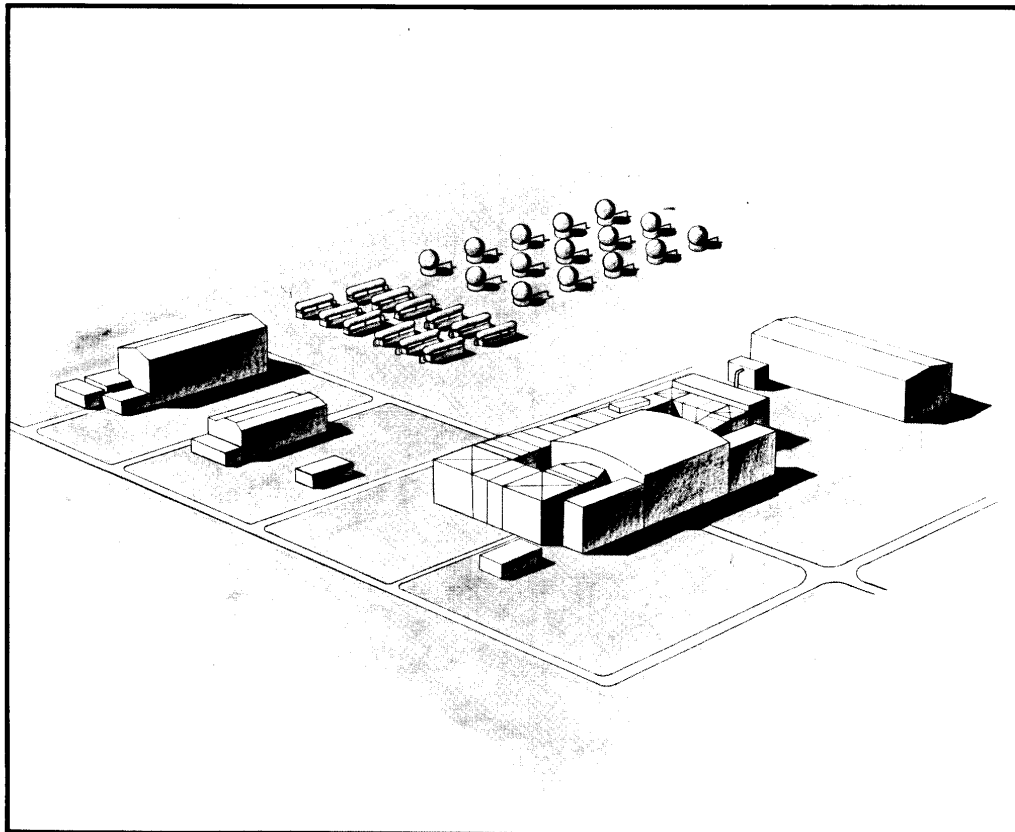


FIGURE 5. PERSPECTIVE DRAWING, RESEARCH AND DEVELOPMENT AREA SHEN -YANG AIRFRAME PLANT 112.

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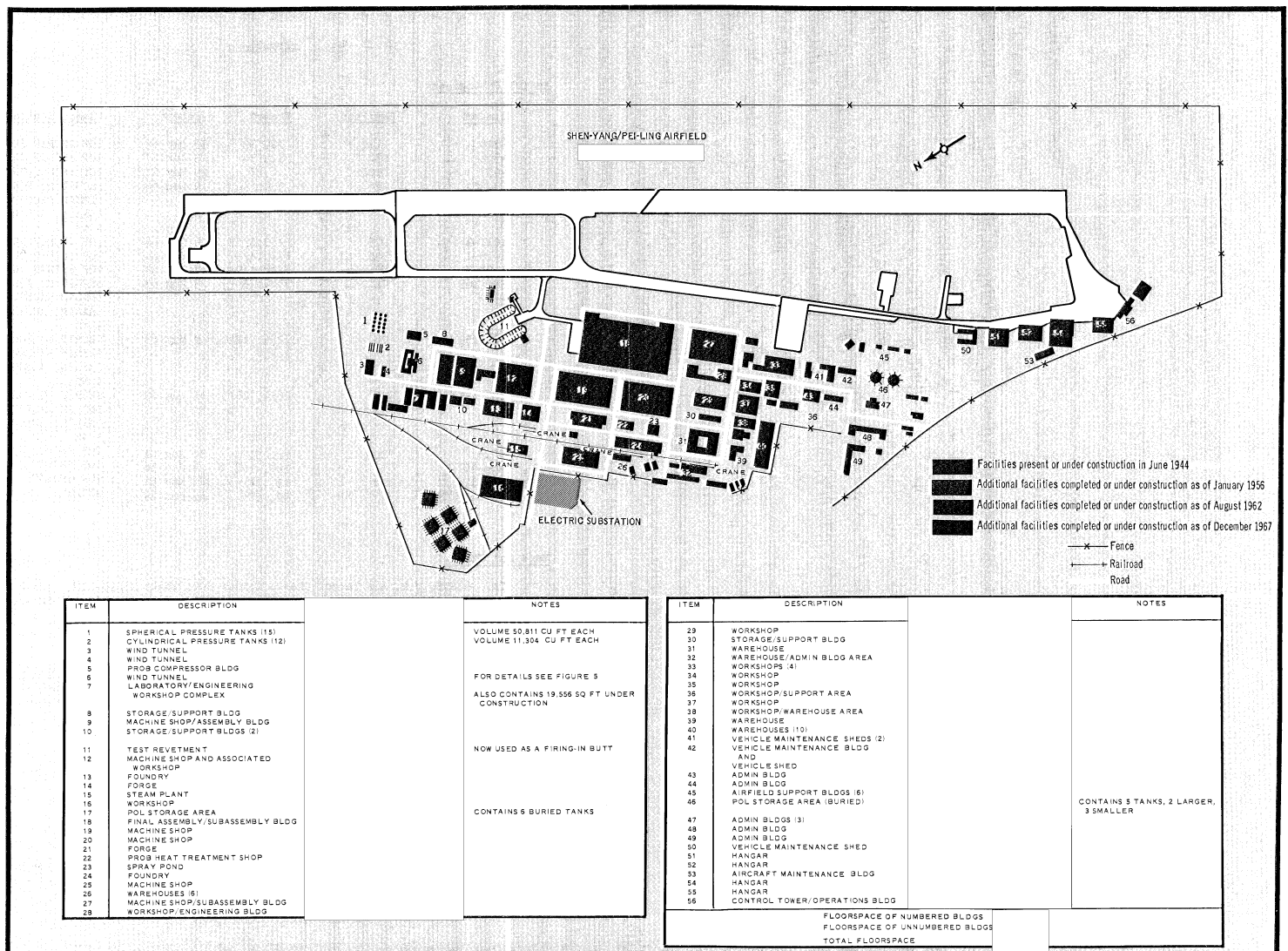
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FIGURE 6. CONSTRUCTION CHRONOLOGY AND DESCRIPTION OF FACILITIES, SHEN-YANG AIRFRAME PLANT 112

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REFERENCES

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Maps and Charts

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